

TITLE ERDET

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/-----/
/1 SUITE : PCB LAYOUT
/2 PROGRAM TITLE : REDAL 20
/3 ROUTINE TITLE : ERDET
/
/ THIS PROGRAM SOURCE FILE IS SUPPLIED IN CONFIDENCE TO THE
/ CUSTOMER: THE CONTENTS OR DETAILS OF ITS OPERATION MAY ONLY
/ BE DISCLOSED TO PERSONS EMPLOYED BY THE CUSTOMER WHO REQUIRE
/ A KNOWLEDGE OF THE SOFTWARE CODING TO CARRY OUT THEIR JOB.
/ DISCLOSURE TO ANY OTHER PERSON MUST HAVE THE PRIOR AUTHORISATION
/ FROM THE DIRECTORS OF REDAC SOFTWARE LIMITED.
/
/6 PURPOSE: TO BUILD UP ALL THE CONNECTION TREES USING THE DISPLAY
/ FILE AS WORKING SPACE.
/
/7 CALLING SEQUENCE AND DESCRIPTION OF ARGUMENTS:
/ CALL ERDET(SPAR1,EOCNAD)
/ SPAR1 ADDRESS OF TREE ARRAY
/ EOCNAD END OF CONNECTIONS POINTER
/
/9 REGISTERS USED: AC, MQ, AIR 10, 15 . IX
/
/10 COMMON AREAS: COMPS,EOCMAD,CONN,ROUTE
/
/12 GLOBALS : ERDET,.DA,TREE2,DFADDR
/-----/
.GLOBL ERDET,.DA,TREE2,DFADDR
/OVERLAY MOD 16/6/72
/UPDATED FOR 44K ON 9APR73
COMP .CBD COMPS 1
EOCMAD .CBD EOCMAD 1
CONNS .CBD CONNX 1
ROUTES .CBD ROUTE 1
.IODEV 1.6
ERDET XX
JMS* .DA
JMP .+3
SPAR1 0
EOCNAD 0
ROUT LAC* CONNS
DAC CONNAD*
LAC* COMP
DAC COMPAD*
LAC SPAR1
DAC* (15
/ SET UP LOOP TO FIND TREES FOR ALL CONN WIDTHS
/

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00000 R 000000 A
00001 R 000000 A
00002 R 000000 A
00003 R 000000 A
00004 R 740040 A
00005 R 120441 E
00006 R 600011 R
00007 R 000000 A
00010 R 000000 A
00011 R 220002 R
00012 R 040414 R
00013 R 220000 R
00014 R 040413 R
00015 R 200007 R
00016 R 060442 R

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PAGE	2	ERDET	SRC	ERDET
53		00017	R 777770 A	LAW -10
54		00020	R 040421 R	DAC ERDCNT* / NUMBER OF POSSIBLE WIDTHS
55		00021	R 200421 R	ERDLUP LAC ERDCNT
56		00022	R 740001 A	CMA
57		00023	R 040436 R	DAC WIDTH* / WIDTH OF CURRENT TREE SERIES
58				/
59				/ CLEAR ALL DISPLAY FILE ADDRESSES
60				/
61		00024	R 200414 R	LAC CONNAD
62		00025	R 721000 A	PAX
63		00026	R 140433 R	DZM SCAN*
64		00027	R 220010 R	LAC* EOCNAD
65		00030	R 723777 A	AAC -1
66		00031	R 040420 R	DAC ENDCO* / 1ST FREE WORD IN CONNS
67		00032	R 540433 R	SAD SCAN
68		00033	R 600230 R	JMP TREED+2 / NO CONNS. STORE -1 IN ARRAY
69		00034	R 230433 R	CLUP LAC* SCAN,X
70		00035	R 500443 R	AND (???)
71		00036	R 740031 A	TCA
72		00037	R 040430 R	DAC NOFCNS* / - NO OF CONNS
73		00040	R 200433 R	LUPC LAC SCAN
74		00041	R 340444 R	TAD (3
75		00042	R 040433 R	DAC SCAN
76		00043	R 230433 R	LAC* SCAN,X
77		00044	R 500445 R	AND (600000
78		00045	R 070433 R	DAC* SCAN,X
79		00046	R 440430 R	ISZ NOFCNS
80		00047	R 600040 R	JMP LUPC
81		00050	R 440433 R	ISZ SCAN
82		00051	R 200433 R	LAC SCAN
83		00052	R 540420 R	SAD ENDCO
84		00053	R 741000 A	SKP
85		00054	R 600034 R	JMP CLUP / CONTINUE
86				/
87				/ FIND THE FIRST CONN WITH A CLEAR DF.
88				/ BUILD UP A TREE FOR IT AND MARK
89				/ ALL THE DISPLAY FILE NUMBERS
90				/
91		00055	R 140433 R	DZM SCAN
92		00056	R 230433 R	CLUP2 LAC* SCAN,X
93		00057	R 500443 R	AND (???)
94		00060	R 740031 A	TCA
95		00061	R 040430 R	DAC NOFCNS
96		00062	R 200433 R	LUPC2 LAC SCAN
97		00063	R 340444 R	TAD (3
98		00064	R 040433 R	DAC SCAN
99				/
100				/ CHECK CONN IS CORRECT WIDTH
101				/
102		00065	R 200433 R	LAC SCAN
103		00066	R 340446 R	TAD (-2
104		00067	R 040434 R	DAC SKAN*

PAGE	3	ERDET	SRC	ERDET
105		00070 R	230434 R	LAC* SKAN,X
106		00071 R	640506 A	LRS 6
107		00072 R	500447 R	AND (7
108		00073 R	540436 R	SAD WIDTH
109		00074 R	741000 A	SKP
110		00075 R	600102 R	JMP MBAK / NOT CORRECT WIDTH
111		00076 R	230433 R	LAC* SKAN,X
112		00077 R	500450 R	AND (177777
113		00100 R	741200 A	SNA
114		00101 R	600111 R	JMP MARK / MARK THIS TREE
115		00102 R	440430 R	MBAK ISZ NOFCNS
116		00103 R	600062 R	JMP LUPC2
117		00104 R	440433 R	ISZ SCAN
118		00105 R	200433 R	LAC SCAN
119		00106 R	540420 R	SAD ENDCO
120		00107 R	600226 R	JMP TREED / ALL TREES MARKED
121		00110 R	600056 R	JMP CLUP2
122				/
123				/
124		00111 R	160015 A	MARK DZM* 15 / WORD COUNTER
125		00112 R	200436 R	LAC WIDTH
126		00113 R	060015 A	DAC* 15 / STORE WIDTH
127		00114 R	200433 R	LAC SCAN
128		00115 R	340451 R	TAD (-1
129		00116 R	040416 R	DAC DUMP*
130		00117 R	200436 R	LAC WIDTH
131		00120 R	660706 A	ALSS 6
132		00121 R	652000 A	LMQ
133		00122 R	230416 R	LAC* DUMP,X
134		00123 R	500452 R	AND (77
135		00124 R	640002 A	OMQ / KEEP BUILDING FIRST WORD FOR TREE
136		00125 R	652000 A	LMQ
137		00126 R	200416 R	LAC DUMP
138		00127 R	340451 R	TAD (-1
139		00130 R	040416 R	DAC DUMP
140		00131 R	230416 R	LAC* DUMP,X
141		00132 R	500453 R	AND (777000
142		00133 R	640002 A	OMQ
143		00134 R	060015 A	DAC* 15 / FIRST NODE
144		00135 R	220442 R	LAC* (15
145		00136 R	040144 R	DAC TARG3 / ADDR FOR TREE TO START BUILDING IN
146		00137 R	340446 R	TAD (-2
147		00140 R	040146 R	DAC TARG5 / ADDR OF WORD COUNTER FOR TREE
148		00141 R	160146 R	DZM* TARG5 / CLEAR COUNTER
149		00142 R	120440 E	JMS TREE2
150		00143 R	600150 R	JMP .+5
151		00144 R	000000 A	TARG3 0 / ARRAY BASE
152		00145 R	000454 R	TARG4 .DSA (0 / ANTINODE
153		00146 R	000000 A	TARG5 0 / WORD COUNT
154		00147 R	000000 A	TARG6 / CONNECTIONS ADDRESS
155				/
156		00150 R	100233 R	JMS ASORT / SORT TREE INTO ALPHANUMERIC ORDER

PAGE	4	ERDET	SRC	ERDET
157				/
158				/ INCREMENT A I 15 TO ALLOW FOR TREE SIZE
159				/
160	00151	R	220442	R LAC* (15
161	00152	R	360146	R TAD* TARG5
162	00153	R	340451	R TAD (-1
163	00154	R	060442	R DAC* (15
164				/
165				/ MARK ALL CONNS WITH NODES ON TREE
166				/
167	00155	R	200414	R LAC CONNAD
168	00156	R	721000	A PAX
169	00157	R	140427	R DZM MSCAN*
170	00160	R	220146	R LAC* TARG5
171	00161	R	740031	A TCA
172	00162	R	040423	R DAC MCNTR* / -NO OF WORDS ON TREE
173	00163	R	230427	R MCLUP LAC* MSCAN,X
174	00164	R	500443	R AND (???
175	00165	R	740031	A TCA
176	00166	R	040425	R DAC MNOFCN*
177	00167	R	230427	R LAC* MSCAN,X
178	00170	R	500453	R AND (??7000
179	00171	R	652000	A LMQ / STORED IN MQ
180	00172	R	440427	R MLUPC ISZ MSCAN
181	00173	R	230427	R LAC* MSCAN,X
182	00174	R	500452	R AND (??
183	00175	R	640002	A OMQ / PACK WORD
184	00176	R	040435	R DAC TEMP*
185	00177	R	440427	R ISZ MSCAN
186	00200	R	440427	R ISZ MSCAN / PTS TO DF WORD
187	00201	R	200423	R LAC MCNTR*
188	00202	R	040424	R DAC MCOUNT
189	00203	R	200144	R LAC TARG3
190	00204	R	340451	R TAD (-1
191	00205	R	060455	R DAC* (10
192	00206	R	220010	A SSLOOP LAC* 10
193	00207	R	540435	R SAD TEMP
194	00210	R	600222	R JMP MARKIT
195	00211	R	440424	R ISZ MCOUNT*
196	00212	R	600206	R JMP SSLOOP
197	00213	R	440425	R MARKED ISZ MNOFCN
198	00214	R	600172	R JMP MLUPC
199	00215	R	440427	R ISZ MSCAN
200	00216	R	200427	R LAC MSCAN
201	00217	R	540420	R SAD ENDCO
202	00220	R	600102	R JMP MBACK
203	00221	R	600163	R JMP MCLUP
204	00222	R	230427	R MARKIT LAC* MSCAN,X
205	00223	R	340456	R TAD (1
206	00224	R	070427	R DAC* MSCAN,X
207	00225	R	600213	R JMP MARKED
208				/

PAGE	5	ERDET	SRC	ERDET
209		00226	R 440421 R	TAD ISZ ERDCNT
210		00227	R 600021 R	JMP ERDLUP
211		00230	R 200451 R	LAC (-1
212		00231	R 060015 A	DAC* 15 / END OF ARRAY MARKER
213				/
214				/
215		00232	R 620004 R	JMP* ERDET / EXIT
216				/
217				/ SUBROUTINE ASORT. SORTS AN ARRAY OF POINTERS
218				/ INTO ALPHANUMERIC ORDER
219				/
220		00233	R 740040 A	ASORT XX
221		00234	R 200144 R	LAC TARG3 / BASE ADDRESS
222		00235	R 340451 R	TAD (-1
223		00236	R 060455 R	DAC* (10
224		00237	R 340456 R	TAD (1
225		00240	R 040431 R	DAC POINT* / PRESENT PTR
226		00241	R 040412 R	DAC BPTR* / BEST PTR
227		00242	R 220146 R	LAC* TARG5
228		00243	R 540456 R	SAD (1
229		00244	R 620233 R	JMP* ASORT
230		00245	R 740001 A	CMA
231		00246	R 340457 R	TAD (2
232		00247	R 040415 R	DAC COUNT* / INNER LOOP
233		00250	R 040422 R	DAC KOUNT* / OUTER LOOP
234		00251	R 220010 A	BLOOP LAC* 10 / START OUTER LOOP
235		00252	R 100304 R	JMS VALUE
236		00253	R 040410 R	DAC BAC*
237		00254	R 641002 A	LACQ
238		00255	R 040411 R	DAC BMQ*
239		00256	R 220010 A	ILOOP LAC* 10 / START INNER LOOP
240		00257	R 100304 R	JMS VALUE
241		00260	R 100356 R	JMS COMPAR / SWAP IF NECESSARY
242		00261	R 440415 R	ISZ COUNT
243		00262	R 600256 R	JMP ILOOP
244		00263	R 220431 R	LAC* POINT
245		00264	R 652000 A	LMQ
246		00265	R 220412 R	LAC* BPTR / BEST POINTER
247		00266	R 060431 R	DAC* POINT
248		00267	R 641002 A	LACQ
249		00270	R 060412 R	DAC* BPTR / SWAPPED OVER
250		00271	R 200431 R	LAC POINT
251		00272	R 060455 R	DAC* (10 / MOVE 1 WORD UP THE ARRAY
252		00273	R 340456 R	TAD (1
253		00274	R 040431 R	DAC POINT
254		00275	R 040412 R	DAC BPTR
255		00276	R 200422 R	LAC KOUNT
256		00277	R 340456 R	TAD (1
257		00300	R 040415 R	DAC COUNT
258		00301	R 440422 R	ISZ KOUNT
259		00302	R 600251 R	JMP BLOOP
260		00303	R 620233 R	JMP* ASORT / EXIT

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261 /
262 / SUBROUTINE VALUE. ENTER WITH A PACKED
263 / RELATIVE PTR TO COMP IN AC AND RETURN
264 / WITH ALPHANUMERIC VALUE OF NAME IN AC
265 / AND MQ. BLANKS COUNT AS ZERO
266 VALUE XX
267 00304 R 740040 A DAC DUMP2*
268 00305 R 040417 R CLL
269 00306 R 744000 A LRS 11
270 00307 R 640511 A RCL / *2
271 00310 R 744010 A DAC DUMP
272 00311 R 040416 R RCL / *4
273 00312 R 744010 A TAD DUMP* / * 6
274 00313 R 340416 R TAD COMPAD
275 00314 R 340413 R TAD (1
276 00315 R 340456 R DAC PTR* / PTR TO FIRST NAME
277 00316 R 040432 R LAC* PTR
278 00317 R 220432 R DAC ACST*
279 00320 R 040407 R ISZ PTR
280 00321 R 440432 R LAC DUMP2
281 00322 R 200417 R AND (77 / PAD NUMBER
282 00323 R 500452 R RCL
283 00324 R 744010 A DAC DUMP2
284 00325 R 040417 R LAC* PTR
285 00326 R 220432 R AND (777400 / TOP 10 BITS
286 00327 R 500460 R TAD DUMP2
287 00330 R 340417 R DAC MQST*
288 00331 R 040426 R RETRY LAC ACST
289 00332 R 200407 R AND (774000 / TOP 7 BITS
290 00333 R 500461 R SAD (200000 / LOOK FOR LEADING BLANK
291 00334 R 540462 R SKP
292 00335 R 741000 A JMP LJUST
293 00336 R 600350 R LAC MQST
294 00337 R 200426 R LMQ
295 00340 R 652000 A LAC ACST
296 00341 R 200407 R CLL
297 00342 R 744000 A LLS 7
298 00343 R 640607 A DAC ACST
299 00344 R 040407 R LACQ
300 00345 R 641002 A DAC MQST
301 00346 R 040426 R JMP RETRY
302 00347 R 600332 R LJUST LAC MQST
303 00350 R 200426 R RCR
304 00351 R 744020 A LMQ
305 00352 R 652000 A LAC ACST
306 00353 R 200407 R AND (377777
307 00354 R 500463 R JMP* VALUE
308 00355 R 620304 R
309 /
310 / SUBROUTINE COMPAR. ENTER WITH VALUE IN
311 / AC AND MQ. COMPARE WITH VALUE IN
312 / BAC AND BMQ AND SWAP IF VALUE IN AC AND MQ LESS

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313 00356 R 740040 A COMPAR XX
314 00357 R 040407 R DAC ACST
315 00360 R 641002 A LACQ
316 00361 R 040426 R DAC MQST
317 00362 R 200407 R LAC ACST
318 00363 R 740001 A CMA
319 00364 R 340456 R TAD (1
320 00365 R 340410 R TAD BAC / COMPAR WITH BEST VALUE
321 00366 R 741100 A SPA
322 00367 R 620356 R JMP* COMPAR / NOT BETTER
323 00370 R 740200 A SZA
324 00371 R 600400 R JMP SWAPIT / YES- BETTER.
325 00372 R 200426 R LAC MQST
326 00373 R 740001 A CMA
327 00374 R 340456 R TAD (1
328 00375 R 340411 R TAD BMQ
329 00376 R 741100 A SPA
330 00377 R 620356 R JMP* COMPAR / NOT BETTER
331 00400 R 200407 R SWAPIT LAC ACST*
332 00401 R 040410 R DAC BAC / BEST AC VALUE
333 00402 R 200426 R LAC MQST*
334 00403 R 040411 R DAC BMQ / BEST MQ VALUE
335 00404 R 220455 R LAC* (10 / ARRAY POINTER
336 00405 R 040412 R DAC BPTR / BEST POINTER
337 00406 R 620356 R JMP* COMPAR
338 /
339 /
340 /
341 /
342 .END

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000000 A
00437 R 000437 E *E
00440 R 000440 E *E
00441 R 000441 E *E
00442 R 000015 A *L
00443 R 000777 A *L
00444 R 000003 A *L
00445 R 600000 A *L
00446 R 777776 A *L
00447 R 000007 A *L
00450 R 177777 A *L
00451 R 777777 A *L
00452 R 000077 A *L
00453 R 777000 A *L
00454 R 000000 A *L
00455 R 000010 A *L
00456 R 000001 A *L
00457 R 000002 A *L
00460 R 777400 A *L
00461 R 774000 A *L
00462 R 200000 A *L
00463 R 377777 A *L

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SIZE=00464

NO ERROR LINES

PAGE 8 ERDET CROSS REFERENCE

ACST	00407	278	288	295	298	305	314	317	331
ASORT	00233	156	220*	229	260				
BAC	00410	236	320	332					
BLOOP	00251	234*	259						
BMQ	00411	238	328	334					
BPTR	00412	226	246	249	254	336			
CLUP	00034	69*	85						
CLUP2	00056	92*	121						
COMP	00000	35*	47						
COMPAD	00413	48	274						
COMPAR	00356	241	313*	322	330	337			
CONNAD	00414	46	61	167					
CONNS	00002	37*	45						
COUNT	00415	232	242	257					
DFADDR	00437	32							
DUMP	00416	129	133	137	139	140	271	273	
DUMP2	00417	267	280	283	286				
ENDCO	00420	66	83	119	201				
EOCMAD	00001	36*	36						
EOCNAD	00010	44*	64						
ERDCNT	00421	54	55	209					
ERDET	00004	1	32	40*	215				
ERDLUP	00021	55*	210						
ILOOP	00256	239*	243						
KOUNT	00422	233	255	258					
LJUST	00350	292	302*						
LUPC	00040	73*	80						
LUPC2	00062	96*	116						
MARK	00111	114	124*						
MARKED	00213	197*	207						
MARKIT	00222	194	204*						
MBAK	00102	110	115*	202					
MCLUP	00163	173*	203						
MCNTR	00423	172	187						
MCOUNT	00424	188	195						
MLUPC	00172	180*	198						
MNOFCN	00425	176	197						
MQST	00426	287	293	300	302	316	325	333	
MSCAN	00427	169	173	177	180	181	185	186	199
		200	204	206					
NOCNS	00430	72	79	95	115				
POINT	00431	225	244	247	250	253			
PTR	00432	276	277	279	284				
RETRY	00332	288*	301						
ROUT	00011	45*							
ROUTES	00003	38*							
SCAN	00433	63	67	69	73	75	76	78	81
		82	91	92	96	98	102	111	117
		118	127						
SKAN	00434	104	105						
SPAR1	00007	43*	49						
SLOOP	00206	192*	196						
SWAPIT	00400	324	331*						

TARG3	00144	145	151*	189	221		
TARG4	00145	152*					
TARG5	00146	147	148	153*	161	170	227
TARG6	00147	154*					
TEMP	00435	184	193				
TREED	00226	68	120	209*			
TREE2	00440	32	149				
VALUE	00304	235	240	266*	307		
WIDTH	00436	57	108	125	130		
.DA	00441	32	41				